Before the
Federal Communications Commission
Washington, D.C.

In the Matter of	)	
	)	
Notice of Proposed Rulemaking	)	
And Order on Elimination of	)	
Amortization Requirements	)	
Schools and Libraries	)	CC Docket No. 02-6
Universal Service Support Mechanism	)	FCC Docket No. 19-5

COMMENTS ON THE FEDERAL COMUNICATIONS COMMISSION'S PROPOSED RULEMAKING TO ELIMINATE THE AMORTIZATION REQUIREMENT FOR NON-RECURRING CATEGORY ONE REQUESTS IN EXCESS OF FIVE-HUNDER THOUSAND (FCC 19-5)

Marlene H. Dortch,

The Public School Facilities Authority (PSFA) is the administrative staff to the Public School Capital Outlay Council (PSCOC). The PSCOC, pursuant to 22-24-6 NMSA 1978, oversees the allocation of state funding for capital outlay projects to public school facilities in New Mexico's 89 school districts. The PSCOC consists of nine council members from the Governor's Office, the Department of Finance & Administration, the Public Education Commission, the Legislative Education Study Committee, the Public Education Department, the New Mexico School Boards Association, the Construction Industries Division, the Legislative Finance Committee, and the Legislative Council Service. The PSCOC reports to the Public School Capital Outlay Oversight Task Force, (PSCOOTF) which is made up of legislators, senior leaders from school districts and charters, and members of the public.

New Mexico's Senate Bill (SB) 159 was passed into law in March 2014 with an emergency clause, due to the need for assistance with broadband in K-12 public schools located throughout the State of New Mexico, especially in rural areas. SB159 was sponsored by Senator Jacob Candelaria and co-sponsored by Representative Mimi Stewart. The bill allows the PSCOC to expend up to $10 million annually to correct deficiencies in broadband infrastructure affecting public schools statewide. SB 159 led to the creation of the Broadband Deficiencies Correction Program (BDPC). BDCP provides up to a 10% match for E-rate

funded Category 1 special construction projects, and formula-based matching funds for the non-discounted portion of E-rate funded Category 2 - internal connections projects.

PSFA has partnered with the New Mexico Public Education Department (NM PED), New Mexico Department of Information Technology (NM DoIT), and EducationSuperHighway (ESH) to address the broadband deficiencies confronting schools and libraries throughout the entire state, and most notably in the rural areas.

PSFA is submitting these comments in support of the elimination of the E-rate Program Amortization Requirement. We agree with the FCC's assessment that the permanent elimination of the requirement will (1) reduce administrative burden, (2) allow applicants and service providers to receive reimbursements sooner, and (3) reduce the uncertainty of funding for a multi-year project.

Since Funding Year 2016, the BDCP has provided matching funds of over three million dollars for 15 individual school districts representing over 40% of the schools in New Mexico. In addition to the State's investment, several tribal governments have provided matching funds in excess of $450 thousand to support three different tribal consortia for some of our most rural and underserved communities. See Table 1 for a list of the matching funds provided for each project. In Funding Year 2019, the State expects to provide funding for several more projects, including an upgrade for a school which is currently served by four bonded DS1 lines (6 Mbps of total bandwidth), and the West Central Consortium, a consortium of schools and libraries in one of our most rural areas, with unreliable service and incredibly high connectivity costs.

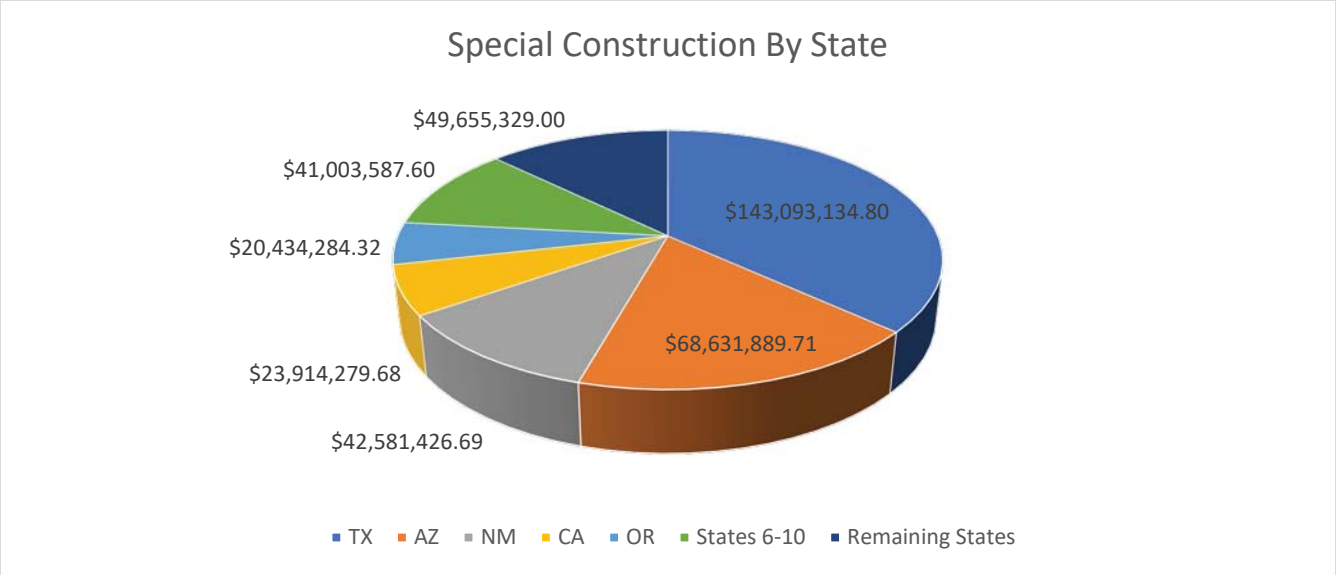
Approved projects have resulted in over $46 million in E-rate special construction funding. See Table 2 for a list of the E-rate funding by project. Without the suspension of the requirement to amortize upfront costs in excess of $500 thousand, it is unclear how many of these projects would have gotten off the ground, as most of them would have required three-year amortization. The completion of these projects will result in the construction of over 640 miles of new fiber, with much of the fiber serving some of our most rural areas.

The upgrades will make it possible to scale connection speed for schools and libraries as demand continues to grow. This investment will also save the E-rate program money in the long run. This is demonstrated by the very rigorous Total Cost of Ownership (TCO) review that each project went through.

Projects in urban areas, such as Albuquerque, Santa Fe, and Las Cruces, will provide benefit to other schools, businesses, and residents of the State through increased competition and greater availability of high-bandwidth services. This is because the majority of special construction projects (over 70%) in New Mexico are for leased lit or dark fiber and, in each project, the service provider has invested its own funds,

outside of E-rate, to install additional strands to serve future customers and increase competition. In New Mexico, the funded self-provisioned solutions are a unique sub-set because they serve some of the most rural areas, where even with E-rate investment there is not a short-term commercial business case to be made for a service provider to invest in the community.

The FCC has asked some very important questions on the impact the elimination of the amortization will have on the USF as a whole. New Mexico is uniquely positioned to provide useful data to the FCC, as the State has accounted for 10.94% of all E-rate special construction funding since Funding Year 2016, trailing only Arizona and Texas. This is more special construction than all of the bottom 31 states combined.



While New Mexico has been a leader in supporting special construction projects, there are many projects our program supported throughout procurement that did not require special construction and did result in increased speed at a lower cost per Mbps. It is our belief that a state-supported procurement process and elimination of the amortization requirement work hand in hand to increase broadband adoption and lower costs, ultimately saving money to the E-rate program and helping the program be sustainable into the future

Charts 1, 2, and 3 show the cost per Mbps of Internet access broken down by school district for Funding Years 2018, 2017, and 2016. The charts show a marked improvement each year, especially for the applicants requesting funding for special construction to support Internet access.

In order to provide the FCC with relevant data explaining how the E-Rate Modernization has fulfilled its goals of incenting infrastructure investment, increasing competition, moving entities toward specific broadband targets, and decreasing costs, we are providing a few specific case studies that underscore the positive impact of the program changes.

To be clear, the State is in full support for eliminating the $500 thousand amortization requirement and continuing the State match. We also support providing more administrative flexibility for applicants undergoing special construction projects, such as expedited funding, allowing 12-strand fiber to be the standard strand count, allowing USAC to approve more than one extension of the deadline to light the fiber, and changing the deadline for fiber construction to match those of other non-recurring charges (i.e. September 30 deadline and automatic one-year extension if FCDL received after March 1 of FY) .

Albuquerque Public Schools - Leased Lit Fiber with $14.3 Million in Special Construction

In 2014, Albuquerque Public Schools issued an RFP for WAN services. During that procurement only the incumbent provider and one other vendor submitted bids. The two vendors could only provide service to approximately one-third of the district's buildings. Most of the district schools have a WAN connection of 300 Mbps (Elementary) or 500 Mbps (Middle and High Schools). Based on the prior years E-rate filings, the estimated cost of this service is $4.46 million per year (see FY 2017 FRN 1799012233). Under this agreement the cost for a 10 Gbps circuit is estimated to be over $10,000 per month. For each location to meet the long-term needs of 10 Gbps per site, the cost would have been over $18 million each year (156 locations times $10,000 per circuit times 12 months).

In 2017, the district decided to rebid its WAN contract in recognition that the contract would be expiring in the near future and to allow for the time it would take to complete such a large build, if needed. In response to the 2017 RFP, the district received bids from six vendors offering a variety of leased lit and leased dark fiber solutions. The suspension of the amortization requirement is likely to have played a significant role in the increase in private sector competition. Of the 15 options bid, ten involved special construction. It should be noted that the district did seek bids for self-provisioned fiber but did not receive any bids, a developing pattern with New Mexico projects. After a thorough evaluation, the district selected a leased lit fiber solution with the lowest total cost of ownership over an eight-year period.

The new solution will ultimately provide 10 Gbps WAN connections to 156 locations, with a one-time investment of $14.3 million and a cost of $245 per circuit per month, or approximately $458 thousand per year ($245 per circuit times 156 locations times 12 months). The State believes, based on past procurements, it is likely that New Mexico E-rate broadband projects would have received fewer bidders had (1) the amortization requirement not been suspended, (2) state match funding not been available, and(3) procurement support from the State not been available.

The math is very clear. A new vendor came into an area with limited fiber infrastructure/competition and decided to invest in the whole community. They offered the district, by way of the E-rate program, a solution that provides a significant cost savings over both the short and long terms. This is the type of investment the E-rate program should support. Because of the changes established by the Modernization Order, including the suspension of the amortization requirement, more vendors are interested in bidding on fiber-based solution projects because they involve less risk than year-over-year funding and decrease the vendor's cost of capital.

This project, upon completion, will result in over 200 miles of new fiber being laid for the district project. Beyond the WAN project cost savings, the district also benefited from significant cost savings in Internet access as well. Under its old Internet access agreement, the district payed about $6.50 per Mpbs. The new agreement provides the district with 6 Gbps of dedicated Internet access, with the ability to burst to 40 Gbps, at a cost of $0.50 per Mbps. It is unclear whether the district's decrease in Internet cost is solely attributable to the changes in the E-rate program, but we do believe there is some correlation. Competition forces vendors to sharpen their pencils and find ways to reduce costs for customers, and provide better value-added services.

Many smaller vendors operating in the State have mentioned how the increased competition has led to lower wholesale costs for fiber-based transport, which ultimately reduces the costs to all customers. Offerings of residential Internet access with higher speeds and lower costs per Mbps are also being noticed as a residual effect of increased competition in the State.

Gallup McKinley County Schools - Leased Lit Fiber with Special Construction of $1.76 Million

McKinley County, New Mexico encompasses over 5,400 square miles and includes a variety of Native American (Navajo and Zuni), federal, and state land. Per the 2010 census, about 75% of the county's residents identify as Native American. The county is larger than Rhode Island, Connecticut, and Delaware. Gallup McKinley County Schools was receiving 100 Mbps of WAN connectivity via microwave service to three rural-remote sites at a cost of $56 thousand per month, or $672 thousand per year. The quality of service was greatly impacted by inclement weather such as sand storms, extremely common in New Mexico. In FY 2016, the district issued a procurement for WAN connectivity to these three remote sites.

For the first time, the district received more than one bid - including a bid that provided fiber connectivity. The winning vendor offered a solution that involved $1.76 million in special construction to the three remote sites. This fiber build was very complicated and required bridge crossings and permits from a variety of jurisdictions, including two Native-American Nations. As with the Albuquerque project, it is our belief that the vendor invested significant resources, beyond the E-rate funded project, to install

additional capacity for future use at no cost to the program. Given the sovereignty of the Native American tribes and the cultural, environmental, and historic aspects of their lands, this may have been an extremely rare opportunity to install the conduit to provide high-speed access to anchor institutions in these communities.

This project is now completed and each of these schools is connected at 1,000 Mbps (fully scalable to 10 Gbps and beyond) at a cost of $2,700 per circuit per month, or a total annual cost of $97 thousand (for three circuits). The table below illustrates a pretty telling story, **the district is receiving a 10-fold increase in bandwidth and the E-rate program is saving over one-million dollars over five years, and an estimated four-million over ten years.** Additionally, the cost per Mbps has decreased from $186.67 per Mbps per month over five-years to $12.48 / Mbps. The students at these schools now have the same educational opportunities that connectivity can offer, as students at the district's in-town schools.

Reference	Description	New Special Construction Solution	Existing Microwave Solution
A	Special Construction	$ 1,760,000.00	$ -
B	Total Cost Per Month	$ 8,100.00	$ 56,000.00
C	Length of Contract (Months)	$ 60.00	$ 60.00
D	Total Recurring Charges (B times C)	$ 486,000.00	$ 3,360,000.00
E	Total 60 Month Cost (A plus D)	$ 2,246,000.00	$ 3,360,000.00
F	Total Bandwidth	$ 3,000.00	$ 300.00
G	Cost per Mbps per Month (E divided by F divided by C)	$ 12.48	$ 186.67
E	Estimated 10 Year Cost (A plus B times 120 months)	$ 2,732,000.00	$ 6,720,000.00

Because of this investment (by the vendor, E-Rate, and the State), the vendor is now able to offer service to other entities (either through or outside of E-rate) that previously did not have reliable scalable high-speed broadband. They are now able to provide access to other anchor institutions along the fiber route with only incremental costs for the last mile connection. The suspension of the amortization requirement directly led to this investment. A vendor, or an applicant, could not assume the risk of a large upfront cost they can presumably only afford with E-rate subsidies, if future E-rate years's funding is uncertain.

In 2017, the district sought bids for WAN service for 20 of their less-remote sites that were currently served with 400 Mbps of fiber. The district received multiple bids, some with special construction and some without. The district selected a solution from a different provider that did not include special construction. Twenty of its schools are now connected at 1,000 Mbps at a cost of $48 thousand per month as compared to the $129 thousand per month they were paying for 400 Mbps. Again, this significant cost reduction is the result of increased competition – and the multiple solution options – made possible by the Modernization Order.

Finally, for FY2019 the district sought bids for WAN service to ten of its sites currently served by fiber at 100 Mbps and one school served at 6 Mbps via copper and microwave-based WAN service and at 20 Mbps via satellite Internet. For the ten schools currently on fiber, the incumbent was selected as the winning vendor and will now provide 1,000 Mbps to these sites for slightly less than what they are currently paying for 100 Mbps. This project does involve a modest special construction investment of around $550 thousand. This special construction charge is less than the total annual cost of one-year of the 100 Mbps service, so it amounts to a 10-fold increase in connectivity with no additional costs to the E-rate program after year one.

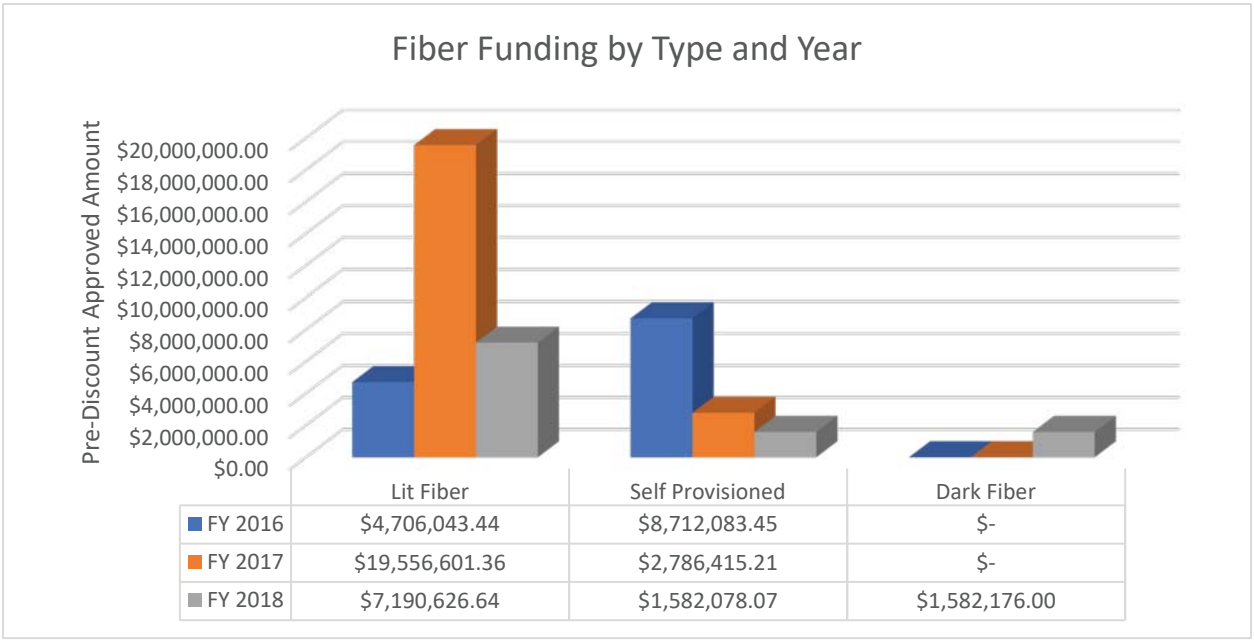
After five procurement attempts, the district received two viable fiber-based solutions for their school which is currently receiving WAN service through four-bonded DS-1 lines. This school is 90-miles away from the district office and is so remote that the district sends gas trucks to fill the buses and other machinery. The fiber project does have a significant build-out cost given the rugged nature of the geography and the "checkerboard" jurisdiction of the area. However, we do believe the build-out will help level playing fields and hopefully provide better opportunity for broadband access for others in the future.

Self-Provisioned Fiber as a Viable Option

Operating under the principle of being technology-agnostic, the State RFP template does allow vendors to bid for self-provisioned fiber as an option. Some applicants, while not truly desiring a self-provisioned solution, seek bids as a procurement strategy to increase competition. Some rural applicants already manage large self-provisioned fiber networks, which were funded by local dollars due to many factors, including the lack of available leased lit or dark options, no service at all, or no true competition. It is reasonable for some applicants in these geographically challenged areas to determine that self-provisioned fiber is the most cost-effective option. In many of these rural communities, vendors are either unwilling or unable to provide service at all, or provide inadequate bandwidth over non-scalable technology, or charge extremely high prices – for various reasons.

If an incumbent vendor, with infrastructure in place, cannot compete with a vendor providing new fiber, they are either not interested in keeping the business or there is something wrong with their business model.

The table below shows special construction project funding in New Mexico from FY 2016 through FY 2018 broken down by type and sub-category. Not surprisingly, there was a significant amount of self-provisioned in FY 2016, but those amounts leveled off in FY 2017 and 2018. Almost seven million of the self-provisioned fiber in FY 2016 was for two tribal consortia that include multiple Native American Nations and a combination of schools and libraries. Because these consortia projects were for such remote entities, it was clearly proven that self-provisioned was the most cost-effective option, or the only feasible option. All of these sites were previously served by inadequate legacy facilities. Both Chairman Pai and Commissioner Rosenworcel travelled to New Mexico, separately, to visit these projects and see the impact they were having in the respective communities.



	Lit Fiber	Self Provisioned	Dark Fiber
FY 2016	$4,706,043.44	$8,712,083.45	$-
FY 2017	$19,556,601.36	$2,786,415.21	$-
FY 2018	$7,190,626.64	$1,582,078.07	$1,582,176.00

While we understand the Commission's concern regarding self-provisioned fiber, and the potential to overbuild, we do believe that there are specific use cases where it is the best option. New Mexico is a rural state, and considering the existing infrastructure, the potential to overbuild is very unlikely in most areas.

In closing, we want to thank the Commission for the forward-thinking changes that have been made to the E-rate Program, changes that have facilitated increased competition and better broadband access in some of the country's most rural areas. We encourage the FCC to continue to seek ways to simplify the E-rate program and incentivize broadband investment. It is our whole-hearted belief that permanently eliminating the amortization requirement is a main factor, required to continue the incredible progress that has already been made. The continued FCC investment in fiber build-outs – when it is the most cost-effective option - coupled with the continuance of State matching funds, will increase competition, lower cost and will help applicants bridge the digital divide. This in turn will give students access to the connectivity they need to succeed.

Sincerely,

Date: 3/18/2019

Jonathan Chamblin, Director

Public School Facilities Authority

TABLE 1: MATCHING FUNDS BY APPLICANT:

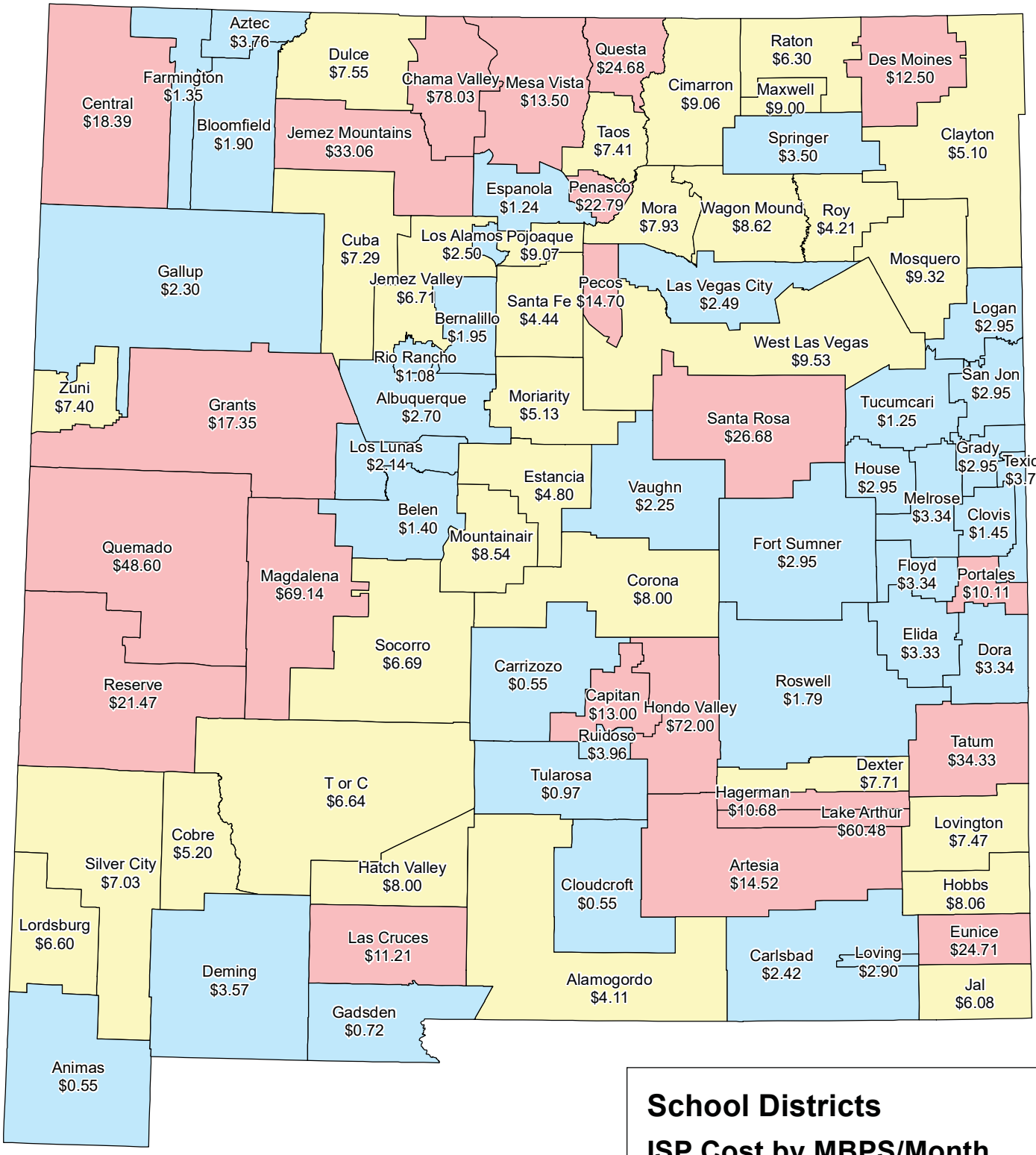
Applicant Name	2016	2017	2018	Grand Total
Acoma Pueblo Consortium			$ 110,508.33	$ 110,508.33
Albuquerque School District		$ 1,434,050.00		$ 1,434,050.00
Bernalillo Public Schools		$ 127,221.10		$ 127,221.10
Bloomfield School District	$ 41,226.94			$ 41,226.94
Clovis Municipal Schools	$ 3,000.00		$ 13,209.77	$ 16,209.77
Deming Public School District	$ 34,313.75			$ 34,313.75
Dulce School District		$ 12,099.65		$ 12,099.65
Farmington Muncpl Sch Dist 5	$ 142,493.90			$ 142,493.90
Gallup-Mckinley Co School Dist	$ 87,908.23			$ 87,908.23
Grants-Cibola County School District	$ 113,716.68			$ 113,716.68
Hondo Valley School District	$ 1,750.00			$ 1,750.00
Jemez Pueblo Tribal Consortium	$ 169,508.75			$ 169,508.75
Las Cruces Public Schools Consortium			$ 343,159.35	$ 343,159.35
Las Vegas City School District		$ 34,865.75		$ 34,865.75
Los Lunas School District			$ 79,108.80	$ 79,108.80
Middle Rio Grande Pueblo Tribal Consortium	$ 177,186.18			$ 177,186.18
Santa Fe School District		$ 467,438.64		$ 467,438.64
Socorro Consol School District			$ 72,499.96	$ 72,499.96
Grand Total	**$ 771,104.43**	**$ 2,075,675.14**	**$ 618,486.21**	**$ 3,465,265.78**

TABLE 2: E-RATE FUNDED SPECIAL CONSTRUCTION:

Applicant Name	2016	2017	2018	Grand Total
Acoma Pueblo Consortium			$ 2,210,166.60	$ 2,210,166.60
Albuquerque School District		$ 14,500,000.00		$ 14,500,000.00
Bernalillo Public Schools		$ 2,544,422.21		$ 2,544,422.21
Bloomfield School District	$ 296,897.21			$ 296,897.21
Clovis Municipal Schools	$ 124,800.00		$ 132,078.86	$ 256,878.86
Deming Public School District	$ 707,500.00			$ 707,500.00
Dulce School District		$ 241,993.00		$ 241,993.00
Farmington Muncpl Sch Dist 5	$ 1,424,939.25			$ 1,424,939.25
Gallup-Mckinley Co School Dist	$ 1,755,700.17			$ 1,755,700.17
Grants-Cibola County School District	$ 2,273,575.30			$ 2,273,575.30
Hondo Valley School District	$ 35,000.00			$ 35,000.00
Jemez Pueblo Tribal Consortium	$ 3,405,015.07			$ 3,405,015.07
Las Cruces Public Schools Consortium			$ 4,980,460.04	$ 4,980,460.04
Las Vegas City School District		$ 762,600.00		$ 762,600.00
Los Lunas School District			$ 1,582,176.00	$ 1,582,176.00
Middle Rio Grande Pueblo Tribal Consortium	$ 3,543,723.58			$ 3,543,723.58
Santa Fe School District		$ 4,520,372.00		$ 4,520,372.00
Socorro Consol School District			$ 1,449,999.21	$ 1,449,999.21
Grand Total	**$ 13,567,150.58**	**$ 22,569,387.21**	**$ 10,354,880.71**	**$ 46,491,418.50**

CHART 1 - FUNDING YEAR 2018 COST PER MBPS FOR INTERNET ACCESS

ISP Cost By MBPS Per Month 2018



School Districts

ISP Cost by MBPS/Month

35	$0.00 - $4.00 - Goal
32	$4.01 - $10.00 - Acceptable
22	$10.01 - $78.03 - Unacceptable

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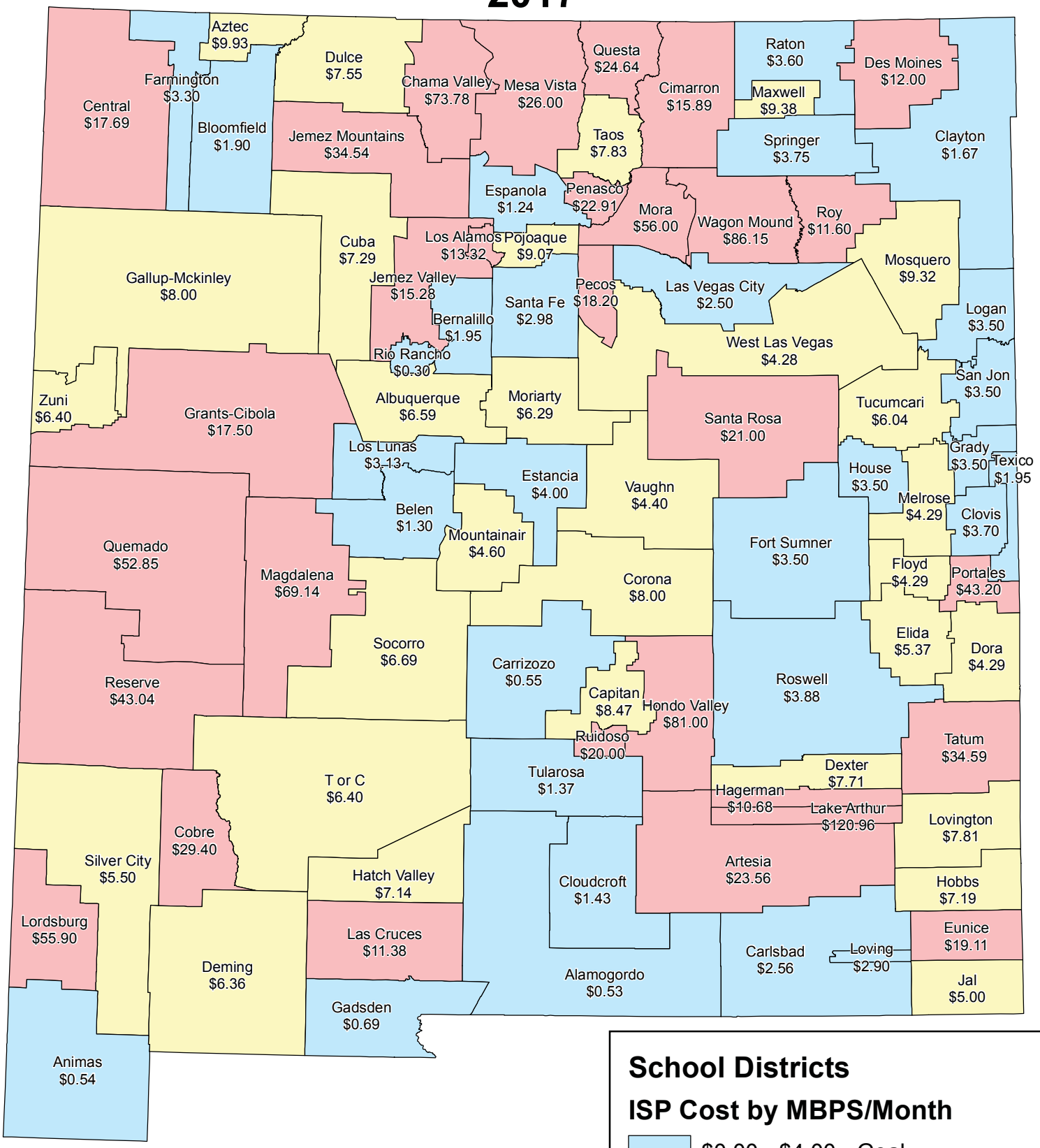
Created 4/23/18
By AM PSFA
Sources: PSFA & BDCP

CHART 2 - FUNDING YEAR 2017 COST PER MBPS FOR INTERNET ACCESS

ISP Cost by MBPS Per Month 2017



School Districts

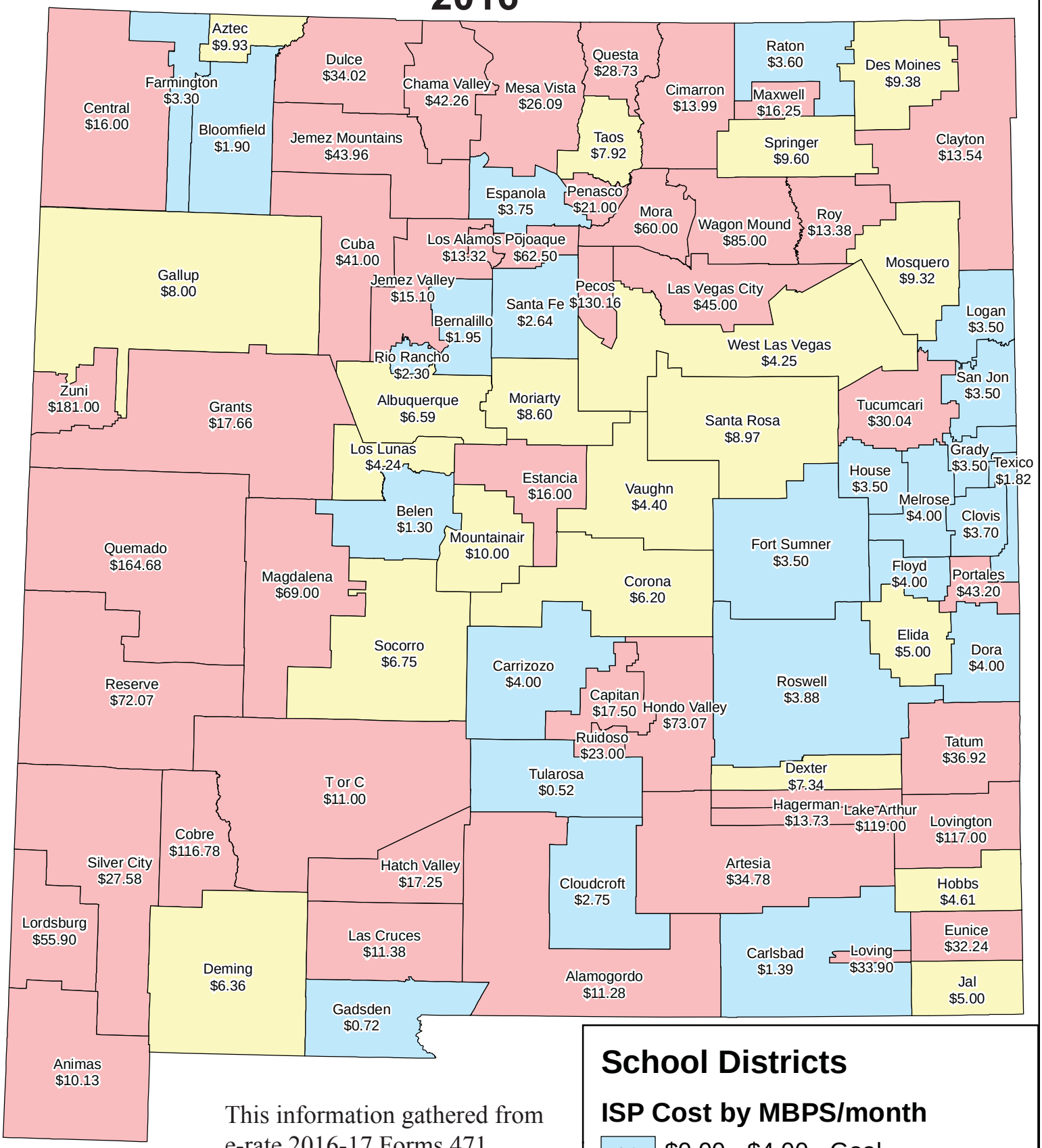
ISP Cost by MBPS/Month

29	$0.00 - $4.00 - Goal
30	$4.01 - $10.00 - Acceptable
30	$10.01 - $121.00 -Unacceptable

Created 5/22/17
By AM PSFA
Sources PSFA & BDCP

CHART 3 - FUNDING YEAR 2016 COST PER MBPS FOR INTERNET ACCESS

ISP Cost by MBPS Per Month 2016



This information gathered from e-rate 2016-17 Forms 471.

Created 6/6/16
By AM PSFA
Sources: PSFA & BDCP

School Districts

ISP Cost by MBPS/month

24	$0.00 - $4.00 - Goal
20	$4.01 - $10.00 - Acceptable
45	$10.01 - $181.00 - Unacceptable